

CLIMATE CHANGE ADAPTATION BULLETIN

A Quarterly Update of Activities

United Nations Development Programme

ENVIRONMENT AND ENERGY

ISSUE NO. 9
JUNE 2012

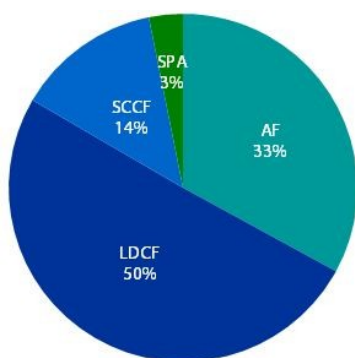
Empowered lives.
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This bulletin is produced by the UNDP-GEF Unit of UNDP's Environment and Energy Group. It provides an overview of UNDP-GEF's support to countries to affect policy and institutional change for climate change adaptation at the national, sub-national and community levels. It includes updates on a range of topics including the status of on-going projects, new project approvals, performance indicators, project impacts and results, and noteworthy announcements.

To contribute to future editions of the newsletter, please write to: adaptation@undp.org

Supporting Climate Change Adaptation in Asia Pacific



Distribution of Grant Funds for UNDP-supported adaptation initiatives in Asia Pacific (as of Jun-12)

UNDP, together with partners, is currently supporting over 30 countries in the Asia Pacific region with the development and implementation of initiatives that address urgent adaptation needs. These initiatives, financed by the Least Developed Countries Fund (LDCF), Special Climate Change Fund (SCCF), and Adaptation Fund (AF), aim to enhance adaptive capacities within countries, so that they can better respond to current and future climatic events.

Note: [Issue 8](#) of the Adaptation Bulletin featured several ongoing initiatives in Africa. Future issues will feature portfolio information and collections of stories from Arab States, Europe & Central Asia, and Latin America.

Stories from Asia Pacific

Integrated Climate Risk Financing: ILO and UNDP teaming up in the Philippines

Contributed by: Angus Mackay, UNDP Asia Pacific Regional Centre, angus.mackay@undp.org



Farmers in Mindanao
Photo: ILO-DTI-DOLE/CCAP

In Agusan Del Norte, North Eastern Mindanao, Philippines, farmers have been losing income and assets because of increasingly unpredictable and extreme weather events, such as droughts, monsoons, typhoons and floods. In some cases the combined effects could result in a 60% loss of a crop. This is difficult to cope with and unsustainable for communities that are relatively isolated from the formal economy and remain entirely dependent on the fruits of their labour in the fields.

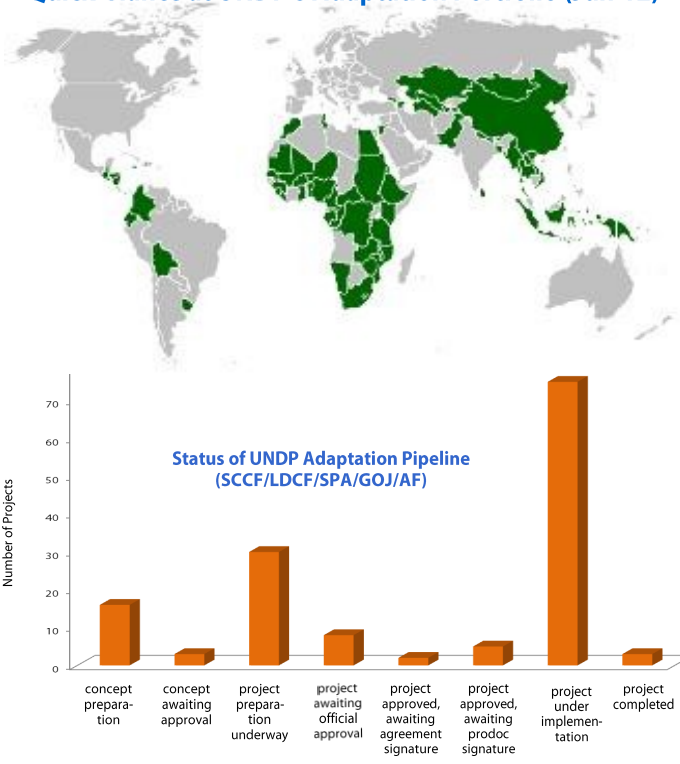
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Quick Glance at UNDP's Adaptation Portfolio (Jun'12)



(Continued from page 1) - **Stories from Asia Pacific**

About three quarters of the rural poor in the Philippines live in the South, in Mindanao and in the Visayas. These are already low income households due to geographical isolation, poor access to services and few opportunities to innovate. As weather continues to be unpredictable and extreme, farmers become increasingly vulnerable to these risks thus pushing communities deeper into poverty. To better manage these risks and allow their hard work to gradually translate into higher income and surplus at the end of the growing season what is needed need is a better way to manage this risk so that hard work can gradually be translated into higher household income and a surplus at the end of the growing season.

Through a joint climate change adaptation programme with support from the Millennium Development Goals (MDG) Achievement Fund, the International Labour Organisation (ILO) has been working with local governments and the banking sector to help to make poverty a thing of the past in this corner of the world. It all comes down to three words: Integrated Financial Package (IFP). Not catchy or glamorous sounding maybe, but that probably isn't a big issue if you are living on the edge in Mindanao.

The IFP approach centres on the idea that farmers need something more than just credit, just technology, just knowledge, or just insurance – they need it all and it must be easily understandable and accessible. After three years the results are more than promising. Farmers are getting rapid insurance pay-outs following drought or torrential rainfall events. The rate and amount of household savings has increased. Interest payments for agricultural inputs have reduced.

Currently, this approach is being scaled up with support from UNDP and financing from the UNFCCC's Special Climate Change Fund (SCCF), managed by the Global Environment Facility (GEF). The objective is to reduce poverty by increasing farmer resilience to climate risks. The initiative, **'Scaling Up Risk Transfer Mechanisms for Climate Vulnerable Farming Communities in Southern Philippines'** will leverage US\$10 million from central government agencies, local government units, training service providers, financial service providers, non-governmental organizations and farmers' associations. It will help the North East of Mindanao consolidate early gains made in strengthening the adaptive capacity of vulnerable farming communities.

Ultimately it will enable communities themselves to turn farming in this area from a 'poverty trap' into a pathway out of poverty.

Multi-sectoral Approach to Addressing Climate Change in the Maldives

Contributed by: *Martijn Gough and Gernot Laganda, UNDP Asia Pacific Regional Centre, martijn.gough@undpaffiliates.org, gernot.laganda@undp.org*

The small island nation of Maldives is vulnerable to climate induced threats such as sea level rise, changing rainfall patterns and prolonged dry spells, all of which have a significant impact on human and economic development. These climate induced threats cause coastal erosion, flooding and salinisation of soils and groundwater making it difficult to cultivate the land, plan land-use and provide safe drinking water. In addition, climate change threatens the health and integrity of the coral reef ecosystem, which sustains tourism and fisheries. Currently, institutional, financial, policy and capacity challenges are hampering effective adaptation to climate change of the public and private sectors in Maldives. Both sectors lack know-how



Houses vulnerable to coastal erosion on the island of K. Thullushdoo
Photo: ICCRIP project document

and experience in identifying their own vulnerabilities to climate - induced shocks and stresses, and ability to devise appropriate planning and investment to combat these. Recognising this, the Government of Maldives, in cooperation with UNDP, has established a strategic and multi-sectoral approach to promote effective adaptation solutions.

This multi-sectoral approach promotes the notion that climate change problems should not be viewed in isolation. As the effects of climate change are widespread and interrelated, a more integrated approach is required - one that involves projects which are designed to complement and benefit one another and ultimately have a greater and more sustainable impact. To achieve this, three individual yet complementary adaptation initiatives are being implemented to focus on Maldives' most pertinent climate change problems and remove barriers thus promoting effective adaptation and climate risk reduction.

- **'Integrating Climate Change Risk to Resilient Island Planning'** (ICCRIP) aims to enhance the capacity of all levels of government, from national ministries to island authorities, to make climate-smart planning and investment decisions on coastal protection issues. Through this initiative, institutions and individuals will gain skills to appraise climate vulnerability and effective risk reduction measures when faced with decisions about coastal engineering and land-use planning.

- **'Increasing Climate Change Resilience of Maldives through Adaptation in the Tourism Sector'** aims to strengthen the resilience of the tourism industry, which directly accounts for more than 30% of Maldives GDP. The project will develop guidelines and policies for more robust tourism infrastructure, pilot joint risk management activities between tourism operators and tourism-dependent communities, and assess opportunities for risk transfer and insurance solutions to public and private sector institutions. The result of this project will be a more resilient and sustainable tourism industry, which increases the economic value of sound environmental management and adaptation investments.

- **'Increasing climate resilience through an Integrated Water Resource Management Programme in HA. Ihavandhoo, ADh. Mahibadhoo and GDh. Gadhdhoo Islands'** is establishing integrated freshwater management systems on 3 densely populated islands. The freshwater management system will incorporate a number of investments in rainwater harvesting, groundwater recharge and desalination technology to ensure year-round water supply even if one or more supply options fail during more frequent and intense dry spells. This initiative will improve institutional capacities at the national level to devise and propagate climate resilient freshwater management on all inhabited islands.

By working together on one programmatic platform, these three initiatives improve the understanding of climate related risks in government, private sector and community institutions. Each initiative is establishing capacity to appraise appropriate risk reduction measures in a changing climate, and providing an institutional framework to devise better and more climate-smart investment decisions. By serving as an Implementing Entity for this adaptation programme, combining US\$15.8 million in grant financing from the Least Developed Countries Fund (LDCF) and Adaptation Fund (AF) with US\$ 8.3 million in government co-financing, UNDP supports the people of Maldives to systematically access and sequence different sources of climate

(Continued from page 2) - *Stories from Asia Pacific*



Trench to drain water during flooding on the island of G. Dh. Thinadhoo
Photo: ICCRIP project document

finance, and establish a programmatic approach to low emission, climate resilient development. This enables the government to transfer adaptation knowledge, not only between different projects and institutions, but also to establish systematic knowledge sharing with other Small Island Development States (SIDS).

Advancing the development agenda in tandem with climate change adaptation projects in Tuvalu

Contributed by: Yusuke Taishi, UNDP Asia Pacific Regional Centre, yusuke.taishi@undp.org

For the small island nation of Tuvalu, which consists of nine small islands scattered across 750,000 km² of ocean, it is important to ensure that each island is sufficiently equipped – technically, financially and institutionally – to combat the adverse effects of climate change rather than be reliant on assistance coming from the central government located several hundred kilometers away. A recently approved climate change adaptation initiative, with a US\$4.2 million grant from the LDCF and technical assistance from UNDP, is designed to advance such a decentralized approach to climate change adaptation.

To achieve this objective, the initiative will build on UNDP's long-standing flagship programme in Tuvalu entitled 'Support to Local Governance (SLG)'. Over the last six years the SLG has assisted outer island administrations in promoting local, participatory decision making processes that reflect the needs of local communities. This has proven to build an effective, community-oriented adaptation project, and also reinforce the decentralization efforts UNDP has been assisting Tuvalu with under its Multi-country Programme Document and UN Development Assistance Framework (UNDAF). The new adaptation initiative will help communities identify their emerging climate change adaptation needs as part of the existing development planning and budgeting processes, developed and supported by SLG.

This is the second climate change adaptation initiative implemented by the Government of Tuvalu that directly responds to urgent priorities outlined in its National Adaptation Programme of Action (NAPA). With Tuvalu's earlier NAPA projects, which are built directly on existing development platforms, UNDP assisted the Government in accessing nearly US\$8 million from LDCF and AusAID to implement concrete adaptation measures on the ground, including securing freshwater, promoting agricultural and marine resources productivity, improving coastal management, and disaster risk management. This large sum of financial assistance constitutes nearly a quarter of Tuvalu's annual GDP, and is extremely important especially in SIDS which struggle with the dilemma between the high level of aid dependency and the weak level of institutional capacity that limits the number of donor-funded initiatives they can meaningfully support.

Currently, the UNDP Asia Pacific Regional Centre (APRC) Environment team is working closely with cross-practice teams in the UNDP Multi-Country Office in Fiji to assist the Government in undertaking preparatory assessments for the project, which is expected to commence in early 2013.

VIDEOS: Adaptation Initiatives in Asia Pacific

(Click on the titles to access the videos)

[Essential Adaptation - Planning for Climate Change in Tuvalu](#)



While most news headlines on climate change tend to emphasize, quite rightly, the existential threats on Tuvalu due to sea-level rise, there are many other aspects of climate change impacts that have received less attention than they deserve by the international community, but have extraordinary impacts on communities' vulnerability.

[Revealed: Himalayan Meltdown](#)



This [award-winning](#) film, which aired on the Discovery Channel, documents changes in glaciers in five Asian countries, their effects from mountain to sea, and how people of Asia are responding to this threat by harnessing determination, spirituality and science to adapt and survive in the face of a Himalayan meltdown. Included in this movie is footage on the impact of the LDCF-financed and UNDP-supported adaptation projects in Bhutan and Bangladesh.

[Silent Tsunami](#)



In Bhutan, locals call a Glacial Lake Outburst Flood (GLOF) a "silent tsunami." This video follows the efforts of over 300 workers who trek each year to Thorthomi lake, one of Bhutan's 25 most dangerous glacier lakes. The workers, both male and female, use pickaxes and shovels to increase controlled water drainage from the lake and thereby reduce the pressure of meltwater on the thinning moraine dam.

[Vital Roads - Epi Island in Vanuatu](#)



Vanuatu is improving road infrastructure on Epi Island to reduce climate-related risks. Epi's inhabitants depend on local infrastructure to transport their crops to market, their sick to hospitals, and to connect to the outside world. By relocating coastal roads, rehabilitating sea walls, and protecting the coastline through revegetation of native species, these long-term adaptation measures are preserving livelihoods and improving climate resilience.

[Kivori Villages in Papua New Guinea](#)



The Kivori community in Papua New Guinea is a pilot site for the regional SCCF-financed and UNDP-supported Pacific Adaptation to Climate Change (PACC) initiative. Over the years Kivori have suffered from extreme floods and drought, making it impossible to predict seasons. The main goal of the PACC PNG initiative is to increase the resilience and enhance the adaptive capacity of these communities by promoting food security.

[Empowering People, Renewing the Land: Tackling Climate Change Through Afforestation](#)



Rising sea levels and increasing frequency and intensity of tropical cyclones cause severe flooding, salt-water intrusion and erosion in Bangladesh. The LDCF-financed initiative, supported by UNDP, works with local communities to trial innovative coastal plantation arrangements, using a diversified combination of mangrove species, fruit trees, production timber species and vegetables, to increase livelihood resilience.

[Lurking Mountain Tsunami](#)



This short documentary tells the story of the vulnerable communities living under the risk of Glacial Lake Outburst Floods (GLOF) in northern Pakistan. The [recently launched](#) UNDP-supported initiative financed by the Adaptation Fund aims to develop the capacity of public institutions to address immediate GLOF risks; and enable communities to better understand and respond to these risks.

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Participatory Mapping and Community Empowerment for Climate Change Adaptation Planning and Advocacy

An Orientation and Project Planning Workshop in Solomon Islands

Contributed by: *Gabor Vereczi, UNDP Asia Pacific Regional Centre, gabor.vereczi@undp.org*



Construction of 3D model for the Naro community
Photo: *Gabor Vereczi/UNDP*

The Technical Centre for Agricultural and Rural Cooperation ACP-EU (CTA), Partners With Melanesians, The Nature Conservancy (TNC), and the United Nations Development Programme (UNDP) have formed a unique partnership in the Pacific. This partnership's aim is to promote the adoption of innovative Information and Communication Technology (ICT) tools and approaches to help address

development challenges and increase the resilience of local communities to climate change. Currently this is done by enhancing the integration of local knowledge in adaptation planning and implementation processes. The principal approach of this partnership is to focus on the grass roots communities that are to benefit the most. To kick-start this collaboration, a one-week orientation and planning workshop was held in Honiara, Solomon Islands, in May 2012.

The workshop brought together over 80 participants from Europe, the Caribbean, Asia, and Pacific as well as local and government representatives, NGOs, academics and development partners, including Strongem Waka lo Community fo Kaikai (SWoCK), GEF Small Grant Programme (SGP), Youth Environment Programme (YEP), and Strengthening Environment Management and Reducing the Impact of Climate Change (SEMRICC). The UNDP-supported and SCCF-financed project '**Pacific Adaptation to Climate Change (PACC)**' was represented by the Regional Project Manager at the Secretariat of the Pacific Regional Environment Programme (SPREP). Also in attendance were the PACC national project team members from Vanuatu, Micronesia, Cook Islands, Fiji, Palau and Solomon Islands.

The workshop focused its discussions on the use of ICT tools such as participatory three-dimensional modelling (P3DM) in the context of local planning and communications. Expert presenters and facilitators working in the region shared case studies and lessons learned, and discussed the benefits, challenges, and ethical considerations involved in the process.

Through this workshop, the participants learned about:

- Participatory Geographic Information System (GIS) practice and the role of innovative ICTs in facilitating community empowerment and active participation in decision-making;
- The value of local spatial knowledge;
- How P3DM can be used to document, geo-reference and visualise local knowledge and how GIS can add authority to it in an



Presentation of 3D model to Naro community
Photo: *Gabor Vereczi/UNDP*

in practicing participatory mapping and related mitigation measures.

Representatives from Mboemboe in the Choiseul Province (west Solomon Islands) shared their experience on manufacturing a coastal P3DM and using it for planning purposes. A parallel session was set up to construct a mini 3D model of the Naro Community, West Guadalcanal, as a live demonstration. Students from Selwyn College and the Youth Environment Programme at Solomon Islands College of Higher Education (SICHE) constructed the model, and representatives from Naro populated it. Everyone had the opportunity to observe and have a hands-on experience.

The final model was transported and presented to the Naro community. As a result of this demonstration the community became more engaged in the process, discussing details of the model, providing further information (e.g. adding trails, identifying land-use areas, tambu – or protected areas, sacred sites, etc.), involving elders of the community, making it a fully educational experience. As part of the workshop programme, representatives of other projects and initiatives developed action plans to replicate the process in their target communities and project sites.

In the Solomon Islands, through SWoCK and SEMRICC projects, P3DM will be applied in the community based land-use plan, vulnerability assessment and disaster risk reduction in the country.

To read a blog on daily workshop activities, please click [here](#).

The P3DM on-line Toolkit can be found [here](#).

open, hands-on & accessible way;

- How to plan the organisation of a P3DM exercise in the context of climate change adaptation;
- The range of ICTs and web-based applications which could be used to complement the map-making process;
- The Potential risks involved

PHOTOSTORY: Promoting Climate Resilient Water Management and Agricultural Practices in Rural Cambodia

(click image to access the photostory)

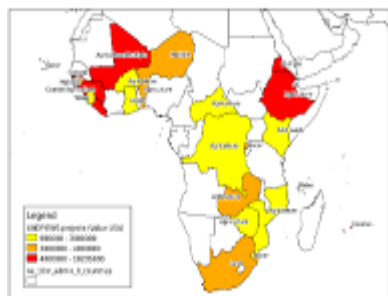


Strengthening Climate Early Warning Systems Across Africa in Support of Climate Resilient Development

Contributed by: Mark Tadross UNDP East and Southern Africa Regional Centre, mark.tadross@undp.org

The ability to adapt to a changing climate depends on how climate has changed in the past, how it is currently changing, and how it may change in the future. Historical climate observations allow us to understand how risks may have changed and identify any successful responses to those risks. Current climate information and monitoring is critical for emergency planning, disaster management and identifying where long term trends may be affecting vulnerable populations. Forecasting or projecting the future climate of a region is dependent on the availability of reliable historical climate observations to calibrate, train, and understand climate models. The availability of climate observation stations is therefore critical for understanding and planning adaptation to climate change.

Early Warning Systems (EWS) have the capabilities to monitor and forecast climate, as well as use that information to minimize risks and damages caused by weather events. This includes the ability to monitor and warn of climate hazards, and to understand the risks that these hazards pose to populations and their livelihoods. However, this alone is not sufficient to minimize damages. The dissemination and communication of information and warnings of oncoming weather events, as well as the ability to respond to these in a timely manner, are critical. Weaknesses in any one component of the EWS may result in a failure of the overall system. Whilst efforts to strengthen existing EWS across Africa have proved successful, maintenance of existing and establishment of new monitoring and observing systems have often proved difficult. In many parts of Africa a decline in the number of fully functioning weather stations has resulted in an average density nearly one eighth of that recommended by the World Meteorological Organisation (WMO). The same is true of other observing infrastructure, such as hydrological gauges (for monitoring floods) and radar (for monitoring severe weather). For these very reasons many countries identified EWS as one of their National Adaptation Programme of Action (NAPA) priority actions.



Current UNDP-supported initiatives with a EWS component
Photo: UNDP

UNDP has already been working with EWS in many countries across various sectors and has now, in partnership with 10 countries across Africa (Benin, Burkina Faso, Ethiopia, Liberia, Malawi, Sao Tome and Principe, Sierra Leone, Tanzania, Uganda, Zambia), recently embarked on a programme to strengthen existing EWS in these countries, including the installation of new observing infrastructure where necessary and capacity building to use and maintain the weather stations and recorded data. These products, funded by the LDCF will also work to improve the way climate information is used (e.g. within agricultural advisories, managing transport links, flood risk and supply chain management), as well as the communication of this information in ways that enable effective risk

management and planning (e.g. via radio, mobile phones, etc.). The overall aim is to improve the forecasting abilities of African populations hence allowing them to establish better livelihoods.

Each country presents a unique challenge in terms of livelihoods, socio-economic structures and vulnerabilities to climate hazards. However, climate itself does not respect political boundaries and there are advantages to a regional EWS approach that these projects will seek to maximise (e.g. reducing costs through scaling up procurement, data sharing and promoting consistency in EWS approaches between countries). This will enable a regionally more effective EWS and improve climate information available for planning adaptation in the future.

Country & Project Title	Source of Funds	Concept or Project	Approval Date
<u>Benin, Burkina Faso, Ethiopia, Liberia, Malawi, Sao Tome and Principe, Sierra Leone, Tanzania, Uganda, Zambia</u> : Strengthening climate information and early warning systems to support climate resilient development	LDCF	10 Concepts	May-12 & Jun-12
<u>Bhutan</u> : Addressing the risk of climate-induced disasters through enhanced national and local capacity for effective actions	LDCF	Concept	May-12
<u>Colombia</u> : Reducing risk and vulnerability to climate change in the region of La Depresión Momposina in Colombia	AF	Project	Jun-12
<u>Comoros</u> : Enhancing adaptive capacity and resilience to climate change in the agriculture sector	LDCF	Concept	Jun-12
<u>Djibouti</u> : Developing Agro-pastoral Shade Gardens as an Adaptation Strategy for poor Rural Communities	AF	Project	Jun-12
<u>Malawi</u> : Ecosystems Approach to Adaptation	LDCF	Concept	Apr-12
<u>Philippines</u> : Scaling up Risk Transfer Mechanisms for Climate Vulnerable Farming Communities in Southern Philippines	SCCF	Concept	Apr-12
<u>Solomon Islands</u> : Water Sector Adaptation	LDCF	Concept	Jun-12
<u>Vietnam</u> : Climate Resilient Infrastructure Planning and Coastal Development	SCCF	Project	Apr-12
<u>Zimbabwe</u> : Building Climate Resilient Rural Communities	SCCF	Concept	Apr-12

A Fresh Crop: Exciting Adaptation Initiatives Take Hold in Sudan

Contributed by: Mutasim Nimir and Adfil Ali, Sudan Project Team

River Nile State (Northern Sudan)



Local farmer in Balouk village with sorghum crops
Photo: Mohamed Bashir

In the highly arid regions of northern Sudan lies River Nile state, where many villages are among the hardest hit by changing flood cycles. In recent years, as climate change has further taken its toll on the dry, desolate region, the riverine villages have repeatedly received below average flooding which has, in turn, resulted in significantly lower crop yields. For farmers in River Nile state who work along the lower banks of the Atbara River and depend on the meagre waters to sustain their livelihoods - the struggle to provide basic needs for their families has become even more pronounced.

Through a LDCF-financed initiative, the Government of Sudan, with support from UNDP, is taking bold adaptation initiatives including: awareness raising of climate change risks and farming options to buffer those risks, supplying supplementary irrigation from the Atbara River, provisions of improved vegetable seeds, and planting of shelterbelts to reduce sand encroachment and help maintain soil moisture. To date, 410 farmers have benefitted from the supplementary irrigation that covered about 294 hectares (ha). The Ministry of Agriculture is providing services to enhance climate resilience of farming practices. It is also in the process of establishing a pilot farm and initiating a reciprocal visits programme for the farmers to exchange experiences.

In Balouk Village, one of the communities in River Nile state, the local economy depends on small-scale farming and animal rearing. Climate change has affected many aspects of village life resulting in the shrinking of grazing and cultivating terrain, irregular rainfall, and accelerated desertification. Support from the LDCF initiative thus far has included: provisions of 13 irrigation pumps to enhance water retention capacity, improved vegetable and legume seeds, shelterbelt planting, and specialized training on sustainable growth and farming. Water is pumped directly from the Atbara River and also flows from the Khashm El Girba Dam and its lake. The shelterbelt protects farmland and houses from encroaching sands and it is also expected to improve the micro climate, thus reducing evapotranspiration and improving moisture levels and crop productivity. In just a few short months the community has seen substantial benefits on the ground, including year-round animal fodder. Moreover, some leguminous species were planted enriching livestock fodder.

There are also less tangible benefits, such as a marked improvement in communities' ability to organise themselves and work together, enhanced knowledge and skills in farming, and animal husbandry which buffers climate change related risks by reducing vulnerability to elevated temperatures and heat waves, and improved health due to a wider availability of local vegetables in the marketplace. Surplus vegetables are sold in nearby markets, supplementing household incomes.



Water pumped from the Atbara River for irrigation in areas that were dry prior to the adaptation interventions
Photo: Mohamed Bashir

One local farmer, Ahmed Eldaw, has achieved striking results. Out of the 5.4 ha that he has cultivated, 2.52 ha were planted with sorghum, 2.52 ha with tomato and 0.36 ha with animal fodder. After selling three truckloads of tomato for US\$3,542 the farm continued to produce four additional truckloads thereby generating additional income for reinvestment in better farming practices and improved irrigation. Ahmed gained by producing 84 sacks of sorghum worth USD \$4,375, while the total production cost was only US\$1,520.

For Ahmed, adaptation interventions have changed his life, securing sustenance for both his family and his livestock. He stated, "I am happy now. This initiative has provided me with the tools to better grow my crops and expand my income." With diverse and improved farming practices, and greater accumulated resources, drought is no longer life threatening.

North Kordofan State (Central Sudan)

The Bara region in North Kordofan state lies between the semi-arid desert and low rainfall savannah. Over the past several decades livelihoods have been affected by frequent drought cycles, shifting sand dunes, and desertification. Variability in rainfall and increase in temperature are projected to cause a decline in sorghum and millet productivity in North Kordofan state by 60% and 40%, respectively, by 2020. Drought conditions and declined productivity have already forced many people to migrate to towns and to the irrigated agricultural schemes along the Nile Valley.

Seven villages in Bara were selected as pilot sites for adaptation interventions via the LDCF-financed initiative in Sudan, as they were identified as being among the most vulnerable to climate-related effects in the state. Through this initiative, wells were rehabilitated (the Bara Basin is rich with surface water) and equipped with solar pumps to irrigate community farms in each village. Cultivated crops, selected in consultation with the communities, included vegetables, fruit trees and fodder. Also, each village was involved in sand dune fixation through the establishment of fencing using *Leptadenia pyrotechnica* stems, tree seedlings, and broadcasting range plants seeds.

In Fogga Village, Hajja Elnimma, an 85-year old woman, recalls when rainfall was regular and sorghum was successfully harvested annually to sustain families for a full year. However, over the past several decades she has witnessed an increase in rainfall variability and crop failure. Most of the sheep raised by Hajja and her family were lost due to deterioration of natural pastures and sand dune encroachment.

Through this adaptation initiative, Hajja was elected to lead women groups to work with 3 acres of irrigated land and 6 acres of sand dune fixation fences. These groups have already benefitted greatly from the adaptation interventions. They have harvested 3.5 tons of potatoes which they sold at the local market, in addition to tomatoes and other vegetables. Revenue from sales has allowed their savings to grow. Hajja stated, "Nahmid Allaha (we thank God). Now we get water for us and for our livestock. Thanks to the animal fodder programme from this project, my sheep gained 4 kg during the last 3 weeks. Above all, women are getting their own sources of revenue. We have our own 'sandug' (savings box)!".

Status of UNDP-supported Adaptation Initiatives

REGION	COUNTRY	SOURCE OF FUNDS	GRANT (US\$M)	REGION	COUNTRY	SOURCE OF FUNDS	GRANT (US\$M)	REGION	COUNTRY	SOURCE OF FUNDS	GRANT (US\$M)
1. CONCEPT PREPARATION <i>(by Country with UNDP support)</i>				4. PROJECT AWAITING OFFICIAL APPROVAL <i>(by GEF SEC or AFB SEC)</i>				7. PROJECT UNDER IMPLEMENTATION - cont'd <i>(by Country with UNDP support)</i>			
Africa	Benin	LDCF	9.00	Africa	Ghana	AF	8.16	Africa	Rwanda	GOJ/LDCF	4.92
	Burundi	LDCF	5.00		Mali	AF	7.86		Sao Tome & Principe	GOJ	2.75
	Guinea Bissau	LDCF	5.00		Seychelles	AF	5.95		Senegal	GOJ	3.00
	Malawi	LDCF	4.50	Europe & CIS	Uzbekistan	AF	7.20		South Africa	SCCF	3.54
	Mali	LDCF	3.50		Latin America and Caribbean	El Salvador	AF		5.00	Tanzania	GOJ/SCCF
	Sao Tome & Principe	LDCF	4.00	Guatemala		AF	5.00		Zambia	LDCF	3.79
	Senegal	LDCF	4.00	Pacific	Fiji	AF	5.28		Zimbabwe	SCCF	0.98
Zambia	LDCF	6.00	Tonga		AF	5.96					
Arab States	Djibouti	LDCF	5.00	5. PROJECT APPROVED, AWAITING AGREEMENT SIGNATURE <i>(by AFB SEC and UNDP)</i>				Arab States	Egypt	SCCF	4.00
Asia	Afghanistan	LDCF	6.00	Arab States	Djibouti	AF	4.29	Morocco	GOJ	2.98	
	Myanmar	LDCF	4.00	Latin America and Caribbean	Colombia	AF	7.85	Sudan	LDCF	3.30	
Latin America and Caribbean	Costa Rica	AF	TBD	6. PROJECT APPROVED, AWAITING PROJECT DOCUMENT SIGNATURE <i>(by UNDP and Country)</i>				Tunisia	GOJ	2.98	
	Suriname	AF	4.60	Africa	Eritrea	AF	6.01	Bangladesh	LDCF	3.30	
Pacific	Kiribati	LDCF	4.42	Asia	Mauritius	AF	8.40	Bhutan	LDCF	3.45	
	Vanuatu	LDCF	5.10	Pacific	Swaziland	SCCF	1.67	Cambodia	LDCF	1.85	
2. CONCEPT AWAITING APPROVAL <i>(by GEF SEC or AFB SEC)</i>				Asia	Vietnam	SCCF	1.40	India	SPA	0.20	
Africa	Burkina Faso	LDCF	7.00	Pacific	Samoa	AF	8.04	Lao	LDCF	4.45	
	Burundi	LDCF	8.71	7. PROJECT UNDER IMPLEMENTATION <i>(by Country with UNDP Support)</i>				Maldives	AF/LDCF	14.42	
Arab States	Sudan	LDCF	5.71	Africa	Burkina Faso	GOJ/LDCF	5.81	Mongolia	AF	5.07	
3. PROJECT PREPARATION UNDERWAY <i>(by Country with UNDP support)</i>					Cameroon	GOJ	3.00	Pakistan	AF	3.60	
Africa	Benin	LDCF	4.00		Cape Verde	LDCF	3.00	Papua New Guinea	AF	6.02	
	Burkina Faso	LDCF	4.00		Comoros	LDCF	3.10	Thailand	SCCF	0.87	
	Central African Rep.	LDCF	2.78		Congo	GOJ	2.98	Albania	SPA	0.98	
	Comoros	LDCF	8.99		Dem. Rep. of Congo	LDCF	3.00	Armenia	SPA	0.90	
	Ethiopia	LDCF	4.90		Ethiopia	GOJ/SCCF	7.48	Azerbaijan	SCCF	2.70	
	Gambia	LDCF	8.90		Gabon	GOJ	2.47	Georgia	AF	4.90	
	Guinea	LDCF	3.71		Ghana	GOJ/SCCF	4.43	Tajikistan	SPA	0.95	
	Liberia	LDCF	6.73		Guinea	LDCF	2.97	Turkmenistan	AF	2.70	
	Malawi	LDCF	9.31		Guinea Bissau	LDCF	4.00	Community-based Adaptation (10 Countries)	SPA	4.53	
	Niger	LDCF	3.75		Kenya	GOJ/SCCF	6.47	CC & Health (with WHO) (7 Countries)	SCCF	4.50	
	Sao Tome and Principe	LDCF	4.00		Lesotho	GOJ	2.98	Ecuador	SCCF	3.00	
	Sierra Leone	LDCF	2.94		Liberia	LDCF	5.28	Haiti	LDCF	3.50	
	Tanzania	LDCF	4.00		Malawi	GOJ	3.88	Honduras	AF	5.18	
	Uganda	LDCF	4.00		Mali	LDCF	2.34	Nicaragua	AF	5.07	
	Zambia	LDCF	4.00		Mauritius	GOJ	2.99	Uruguay	SPA	0.98	
	Zimbabwe	SCCF	3.98		Mozambique	GOJ/LDCF/SCCF	8.38	Cook Islands	AF	4.96	
	Bangladesh	LDCF	5.65		Namibia	GOJ/SPA	3.94	Regional (13 Pacific Islands)	SCCF	13.13	
Bhutan	LDCF	11.49		Niger	GOJ/LDCF	6.50	Samoa	LDCF	4.45		
Indonesia	SCCF	5.00		Nigeria	GOJ	5.48	Solomon Islands	AF	5.10		
Lao	LDCF	4.70		Regional - West Africa Shoreline (5 countries)	SPA	3.30	Tuvalu	LDCF	3.30		
Myanmar	AF	7.91									
Nepal	LDCF	6.30									
Philippines	SCCF	1.05									
Sri Lanka	SCCF	3.12									
Timor Leste	LDCF	4.60									
Samoa	LDCF	1.95									
Solomon Islands	LDCF	6.851									
Tuvalu	LDCF	4.20									
8. PROJECT COMPLETED											
Africa	Tanzania	SCCF	1.000								
Europe and Central Asia	Hungary	SPA	0.99								
Global	Adaptation Learning Mechanism	SPA	0.72								



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Notes

- AF-Adaptation Fund
- AFB SEC-Adaptation Fund Board Secretariat
- GEF-Global Environment Facility
- GEFSEC-Global Environment Facility Secretariat
- GOJ-Government of Japan
- LDCF-Least Developed Countries Fund (UNFCCC Fund managed by GEF)
- SCCF-Special Climate Change Fund (UNFCCC Fund managed by GEF)
- SPA-Strategic Priority on Adaptation (GEF Trust Fund)

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